

| | Hits | Search Text |
|----|------|---|
| 1 | 619 | analy\$4 with (plat\$3 near2 (solution or liquid)) |
| 2 | 21 | (analy\$4 with (plat\$3 near2 (solution or liquid))) with (spectrophotometr\$4 or spectr\$4) |
| 3 | 822 | analy\$4 with (plat\$3 near2 (solution or liquid or bath)) |
| 4 | 304 | (analy\$4 with (plat\$3 near2 (solution or liquid or bath))) and (absorb\$4 or spectr\$6 or spectrophotom\$4 or UV) |
| 5 | 89 | (analy\$4 with (plat\$3 near2 (solution or liquid or bath))) with (absorb\$4 or spectr\$6 or spectrophotom\$4 or UV) |
| 6 | 1131 | (electroless near2 plate) near2 (solution or liquid or bath) |
| 7 | 8 | ((electroless near2 plate) near2 (solution or liquid or bath)) with (absorb\$4 or spectr\$6 or spectrophotom\$4 or UV) |
| 8 | 38 | ((electroless near2 plate) near2 (solution or liquid or bath)) and (absorb\$4 or spectr\$6 or spectrophotom\$4 or UV) |
| 9 | 1 | ((electroless near2 plate) near2 (solution or liquid or bath)) and (absorb\$4 or spectr\$6 or spectrophotom\$4 or UV)) and ((two or different) near2 wavelength\$2) |
| 10 | 2251 | metal near6 (plate near2 (solution or liquid or bath)) |
| 11 | 14 | (metal near6 (plate near2 (solution or liquid or bath))) with (absorb\$4 or spectr\$6 or spectrophotom\$4 or UV) |
| 12 | 25 | (electroless near2 plate) and wavelengths |
| 13 | 61 | (analy\$5or control\$4) with "electroless plate" |
| 14 | 5 | "10142143" |
| 15 | 4 | "10142144" |

| | Hits | Search Text |
|----|------|---|
| 16 | 1008 | (absorb\$5 or spectrophotometer or spectrometer or UV) with "flow cell" |
| 17 | 16 | ((absorb\$5 or spectrophotometer or spectrometer or UV) with "flow cell") with calibrat\$4 |
| 18 | 6 | ((("4699081") or ("4324589")).PN. |
| 19 | 4347 | (436/73,43,50,52,55,164,171).CCLS. |
| 20 | 4267 | (422/50,62,68.1,82.05).CCLS. |
| 21 | 100 | ((436/73,43,50,52,55,164,171).CCLS.) and (plat\$3 near2 (liquid or solution or bath)) |
| 22 | 99 | ((422/50,62,68.1,82.05).CCLS.) and (plat\$3 near2 (liquid or solution or bath)) |

10031461

FILE 'CAPLUS' ENTERED AT 19:39:50 ON 05 AUG 2004

L1 2 (ANAL? OR MONITOR?) (S) "ELECTROLESS PLATE"

L2 360 (ANAL? OR MONITOR? OR AUTOMAT?) (S) (PLATE (3A) (SOLUT? OR LIQUID? OR BATH?))

L3 7 L2 AND WAVELENGTH?

L4 45 L2 AND (SPECTR? OR ABSORB? OR UV? OR WAVELENGTH?)

L5 11518 ELECTROLESS (3A) PLAT?

L6 496 (ANAL? OR MONITOR? OR AUTOMAT? OR CONTROL?) (S) (ELECTROLESS (3A) PLAT?)

L7 61 L6 AND (SPECTR? OR ABSORB? OR UV? OR WAVELENGTH?)

L7 ANSWER 8 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:242952 CAPLUS

DOCUMENT NUMBER: 137:14847

TITLE: Analytical monitoring of electroless Ni-P deposition

AUTHOR(S): Bielinska, Alicja; Bielinski, Jerzy

CORPORATE SOURCE: Zakl. Technol. Ciala Stalego, Wydz. Chem., Politech. Warszawska, Warsaw, Pol.

SOURCE: Inzynieria Powierzchni (2001), (4), 14-21

CODEN: IPOWFU; ISSN: 1426-1723

PUBLISHER: Instytut Mechaniki Precyzyjnej

DOCUMENT TYPE: Journal; General Review

LANGUAGE: Polish

AB A review. This paper presents a comparison of different anal. methods for determination of components in electroless nickel baths and coatings Ni-P. A review of books and publications in this area is presented. One can observe a real increase of application of the new instrumental methods in metal finishing but still the numerous conventional anal. methods are used in the research and production. The reason for that is the high price of the instruments and problems with the preparation of reliable reference stds. The literature review was then completed by the description of the conventional anal. methods applied in author's laboratory. In the anal. of Ni-P coatings the complexometric titration of nickel and spectrophotometric determination of phosphorus are proposed. The presented spectrophotometric method allows the direct determination of phosphorus in aqueous solution, as phosphomolybdate blue, without addnl. extraction with organic solvents. In the anal. of main components of electroless nickel bath the complexometric titration of nickel and redoxometric titration methods for hypophosphite and phosphite are proposed. One can determine the hypophosphite in acidic medium by iodometric and phosphite by mixed bromate-iodometric titration. The presented anal. methods can be applied in the laboratory research and industrial practice of electroless nickel plating, as well as for the preparation of stds. for other specialized instrumental methods.

L7 ANSWER 9 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:84245 CAPLUS

DOCUMENT NUMBER: 136:138242

TITLE: Quantitative analysis of trace sulfur in electroless plating solution

INVENTOR(S): Yamamoto, Hiroshi; Yamashita, Tomoaki

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2002030450 A2 20020131 JP 2000-216766 20000718

PRIORITY APPLN. INFO.: JP 2000-216766 20000718

AB The S is analyzed by adding Ga, In, Sb, and/or Bi compds. into the plating solution to make insol. salts, and measuring the transmittance of the suspension. The electroless plating solution can be Au plating solution, Ni plating solution, or Cu plating solution; and the transmittance is measured using a spectrophotometer at excitation wavelength of 370-430 nm.

L7 ANSWER 11 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:868785 CAPLUS

DOCUMENT NUMBER: 135:377754

TITLE: *Automatic analyzing/controlling device for electroless composite plating solution*

INVENTOR(S): Chiba, Tadashi; Monden, Koji; Yoshikawa, Kazuki; Tachibana, Sinji

PATENT ASSIGNEE(S): C. Uyemura + Co., Ltd., Japan

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT NO. KIND DATE APPLICATION NO. DATE

WO 2001090727 A1 20011129 WO 2001-JP4222 20010521

JP 2002047575 A2 20020215 JP 2001-148561 20010518

US 2003049169 A1 20030313 US 2002-31461 20020122

PRIORITY APPLN. INFO.: JP 2000-150474 A 20000522

WO 2001-JP4222 W 20010521

AB An automatic analyzing/controlling device for an electroless composite plating solution, which automatically analyzes an electroless composite plating solution and automatically controls the solution to a proper liquid composition and/or application conditions, characterized in that a technique of measuring an in-liquid concentration of metallic components in a plating solution by an absorptiometric method comprises a mechanism for automatically introducing a plating solution into an analyzing cell and then measuring a transmittance or an optical absorption by at least two different wavelengths, and a mechanism for computing a target concentration from the measurement by an arithmetic processing to display the result.

REFERENCE COUNT: 16

L7 ANSWER 15 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:682188 CAPLUS

DOCUMENT NUMBER: 133:232104

TITLE: Analysis of electroless nickel plating bath by capillary electrophoresis

AUTHOR(S): Kobayashi, Yasuyuki; Fujiwara, Yutaka; Enomoto, Hidehiko

CORPORATE SOURCE: Osaka Munic. Tech. Res. Inst., 1-6-50 Morinomiya, Joto-ku, Osaka, 536-8553, Japan

SOURCE: Kagaku to Kogyo (Osaka) (2000), 74(9), 453-458

CODEN: KKGOAG; ISSN: 0368-5918

PUBLISHER: Osaka Koken Kyokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Components in electroless Ni plating bath, such as Ni⁺, phosphinate, and organic acids, were simultaneously and successfully detected by capillary electrophoresis. In this anal., trace amts. of Pb⁺ were also detected by direct UV method.

L7 ANSWER 17 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:171292 CAPLUS

DOCUMENT NUMBER: 132:189058

TITLE: Derivation and rapid spectrophotometric determination of iron in electroless nickel plating solution

AUTHOR(S): Liu, R.; Gao, C.; Hua, S.; Yang, J.; Lu, Y.

CORPORATE SOURCE: Department of Chemistry, Shandong University, Jinan, 250100, Peop. Rep. China

SOURCE: Plating and Surface Finishing (2000), 87(2), 73-76

CODEN: PSFMDH; ISSN: 0360-3164

PUBLISHER: American Electroplaters and Surface Finishers Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Experiment proved that iron can be dissolved in an acidic electroless nickel (EN) plating solution during the plating process when plating iron sheet. The influence of nickel sulfate, organic acids, sodium hypophosphite, pH and temperature on the absorption of Fe(III) was studied. A new method, using mono- wavelength, to determine the concentration of Fe(III) was developed. Fe(II) was oxidized to Fe(III) to determine the total iron in the range 0.02 to 19.42 mg/L with recovery of >96.6%. This method is easy, uses simple instruments, is quick and offers high accuracy in the process of measurement. This method can be applied to rapid determination of total iron in EN solns., as well as determining whether the substrate is completely covered by Ni-P alloy if iron sheets are used. REFERENCE COUNT: 16

L7 ANSWER 20 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:760947 CAPLUS

DOCUMENT NUMBER: 130:60329

TITLE: Rapid determination of Ni²⁺ in electroless plating bath

AUTHOR(S): Liu, Rutao; Gao, Canzhu; Hua, Sui; Lu, Yuli
CORPORATE SOURCE: Department of Environmental Engineering, Shandong
University, Licheng, 250100, Peop. Rep. China
SOURCE: Cailiao Baohu (1998), 31(10), 25-27

CODEN: CAIBE3; ISSN: 1001-1560

PUBLISHER: Cailiao Baohu Zazhishe

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The effects of complexing agent, pH, temperature, and NaH_2PO_2 on the absorbance of Ni^{2+} was studied, and a method for determination of Ni^{2+} in electroless plating bath by differential spectrophotometry is proposed. The absorption maximum was at 389.7 nm, linear range 0-35.0 g L⁻¹.

L7 ANSWER 21 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:351867 CAPLUS

DOCUMENT NUMBER: 129:35856

TITLE: "Determination of metal ion content in electroless plating solution by absorptiometry"

INVENTOR(S): *Nishinaka, Shuichi; Morishita, Yasumitsu; Miyagawa, Naoki*

PATENT ASSIGNEE(S): Chuo Seisakusho Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 10142144 A2 19980529 JP 1996-301673 19961113

PRIORITY APPLN. INFO.: JP 1996-301673 19961113

AB The title determination method is conducted by raising output of a light source for increase of the amount of light projected when light transmittance declines. Plating solns. with high-content metal ion can be measured precisely by the method.

L7 ANSWER 22 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:351866 CAPLUS

DOCUMENT NUMBER: 129:35855

TITLE: "Determination of nickel content in electroless plating solution by absorptiometry"

INVENTOR(S): *Tsuge, Yoshio; Kato, Kazushige; Takeuchi, Jiro*

PATENT ASSIGNEE(S): Chuo Seisakusho Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 10142143 A2 19980529 JP 1996-298432 19961111

PRIORITY APPLN. INFO.: JP 1996-298432 19961111

AB The title determination method is conducted by using a continuous-spectrum red light source having the short-wavelength value and the long- wavelength value of the half-value width 600-650 nm and 750-800 nm, resp. High-precision measurement can be achieved for a Ni-containing plating solution even after repeated use.

L7 ANSWER 23 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:17574 CAPLUS

DOCUMENT NUMBER: 128:123200

TITLE: Spectrophotometric determination of nickel and sodium hypophosphite in electroless Ni-P-PTFE plating solution

AUTHOR(S): Ye, Qing; Wang, Zunben

CORPORATE SOURCE: Dept. Chem., Jiangxi Shangrao Teachers College, Shangrao, 334001, Peop. Rep. China

SOURCE: Fenxi Huaxue (1997), 25(12), 1466

CODEN: FHHHDT; ISSN: 0253-3820

PUBLISHER: Zhongguo Huaxuehui "Fenxi Huaxue" Bianji Weiyuanhui

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB Ni was determined by spectrophotometry using dimethylglyoxime in $\text{NH}_3\text{-NH}_4\text{Cl}$ buffer solution containing NaIO_4 . Hypophosphite was determined by kinetic spectrophotometry using KIO_3 as the oxidant in H_2SO_4 medium. Satisfactory results were obtained.

L7 ANSWER 30 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:240062 CAPLUS

DOCUMENT NUMBER: 122:22789

TITLE: Analysis of electroless plating solution of tin, lead, and their alloys

INVENTOR(S): Uchida, Hiroki; Kubo, Motonobu; Kiso, Masayuki; Kamitamari, Tooru

PATENT ASSIGNEE(S): Uemura Kogyo Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 06222007 A2 19940812 JP 1993-26081 19930121

PRIORITY APPLN. INFO.: JP 1993-26081 19930121

AB The title method, suited for plating solution anal. in electroless plating of tin, lead, and their alloys on copper and copper alloys, comprises the steps of: sampling and acidifying the sample solution from plating bath; adding Bi ions into the sample solution which will forming a color complex with thioamide compds. in the solution; determining the reduced thioamide concentration during the plating by spectrophotometry and calculating the reduced amount of other components.

L7 ANSWER 31 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:48293 CAPLUS

DOCUMENT NUMBER: 122:177152

TITLE: Monitoring of the composition of electroless palladium-phosphorus alloy plating baths by FTIR ATR spectrometry

AUTHOR(S): Nawafune, Hidemi; Mizumoto, Shozo; Kohashi, Yasuhito; Sugimoto, Naoki; Haga, Masaki

CORPORATE SOURCE: Fac. Sci., Konan Univ., Kobe, 658, Japan

SOURCE: Hyomen Gijutsu (1994), 45(8), 835-7

CODEN: HYGIEX; ISSN: 0915-1869

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Monitoring of electroless palladium plating baths using hypophosphite as a reducing agent and ethylenediamine (en) as a complexing agent was investigated by FTIR ATR spectrometry. Linear relationships were obtained between the absorbance of the characteristic absorption bands and the concns. of Pd(en)₂²⁺ complex, en, hypophosphite, and phosphite. In continuously used baths with large accumulations of phosphite, the ATR spectra of phosphite, Pd(en)₂²⁺ complex, and hypophosphite overlapped, but even in these cases compns. could be determined by curve fitting.

L7 ANSWER 32 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:314613 CAPLUS

DOCUMENT NUMBER: 120:314613

TITLE: In-depth analysis of electroless nickel plating layers by glow discharge emission spectrometry

AUTHOR(S): Miyawaki, Akira; Wagatsuma, Kazuaki; Hirokawa, Kichinosuke

CORPORATE SOURCE: Inst. Mater. Res., Tohoku Univ., Sendai, 980, Japan

SOURCE: Bunseki Kagaku (1994), 43(2), 125-9

CODEN: BNSKAK; ISSN: 0525-1931

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Glow discharge emission spectrometry with a Grimm-type lamp was applied to elemental anal. of electroless Ni layers deposited from hypophosphite plating baths. The plating layers contain .apprx.8 wt percent P. The depth profile anal. of the as-deposited sample indicates the segregation of P at the surface of the plating layer. The depth profilings of heat treated steel substrates covered by electroless Ni coatings were also studied. The heat treatment at 750° makes a more complicated structure of the layer, consisting of Ni-Fe oxide layers, a Ni-P plating layer, and an Fe diffusion zone.

L7 ANSWER 33 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:305171 CAPLUS

DOCUMENT NUMBER: 120:305171

TITLE: Method for automatic control of electroless plating bath

INVENTOR(S): Nishikawa, Tetsuji; Haga, Masaki; Nawafune, Hidemi; Mizumoto, Shozo

PATENT ASSIGNEE(S): Ishihara Chemical Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 06041764 A2 19940215 JP 1992-218634 19920723

PRIORITY APPLN. INFO.: JP 1992-218634 19920723

AB The method comprises detecting specified compns. (i.e., reducing agent and complexing agent) from an electroless plating bath, containing metal salt, complexing agent and reducing agent as main compns., by IR spectrometry, calculating the concns. of the specified compns. based on their absorbances, comparing the calculated concns. with their setting concns. to find their necessary make-up quantities, and adding that quantities of the specified compns. to the bath, resp.

L7 ANSWER 34 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:223909 CAPLUS

DOCUMENT NUMBER: 120:223909

TITLE: Process analysis of electroless nickel deposition baths by Raman spectroscopy

AUTHOR(S): Gantner, E.; Beck, M.; Mueller, H. G.; Steinert, D.; Ache, H. J.

CORPORATE SOURCE: Inst. Radiochem., Kernforschungszent. Karlsruhe GmbH,
Karlsruhe, 76021, Germany

SOURCE: Journal of Raman Spectroscopy (1994), 25(1), 31-41

CODEN: JRSPAF; ISSN: 0377-0486

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In a test experiment carried out in a small compact electroless plating facility, the concns. of hypophosphite and phosphite in a nickel deposition bath of the Kanigen type were monitored online with a dispersive Raman spectrometer. The molar amts. of nickel, hypophosphite and phosphite consumed and formed were calculated and compared with the stoichiometry of the nickel plating process adopted. Nickel bath samples were also measured with an FT Raman spectrometer to compare the performances of both Raman techniques with a view to their application to aqueous solns.

L7 ANSWER 35 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:676461 CAPLUS

DOCUMENT NUMBER: 119:276461

TITLE: In situ monitoring of electroless nickel-phosphorus alloy plating baths by

Fourier transform infrared attenuated total reflectance (FTIR ATR) spectrometry

AUTHOR(S): Mizumoto, Shozo; Nawafune, Hidemi; Nishikawa, Noriyuki; Kohashi, Yasuhito

CORPORATE SOURCE: Fac. Sci., Konan Univ., Kobe, 658, Japan

SOURCE: Hyomen Gijutsu (1993), 44(9), 732-6

CODEN: HYGIEX; ISSN: 0915-1869

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB In-situ monitoring of electroless Ni plating baths using NaH_2PO_2 as a reducing agent was investigated by using FTIR ATR spectrometry. The basic bath composition was $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ 0.1, Na citrate 0.2, $\text{NaH}_2\text{PO}_2 \cdot \text{H}_2\text{O}$ 0.2, and $\text{Na}_2\text{HPO}_3 \cdot 5\text{H}_2\text{O}$ 0.2 at pH 8. Linear relationships were obtained between absorbance of the characteristic absorption bands and concns. of hypophosphite, phosphite, citrate, and sulfate. In continuously used baths with large accumulations of phosphite and sulfate, the ATR spectra of hypophosphite, phosphite, and sulfate overlapped, but even in these cases compns. could be determined with sufficient accuracy by curve fitting. This method constitutes a simple rapid procedure that requires no dilution, separation, or other pre-treatment and was applied to the in-situ monitoring of electroless plating baths with satisfactory anal. results.

L7 ANSWER 38 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1992:453641 CAPLUS

DOCUMENT NUMBER: 117:53641

TITLE: In-situ monitoring of electroless plating processes by scanning photoacoustic spectroscopy

AUTHOR(S): Irie, Koji; Kobayashi, Miki; Miura, Ikuko; Yoshihara, Sachio; Sato, Eiichi

CORPORATE SOURCE: Utsunomiya Univ., Utsunomiya, 321, Japan

SOURCE: Hyomen Gijutsu (1992), 43(2), 158-9

CODEN: HYGIEJ; ISSN: 0915-1869

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Electroless plating was monitored 2-dimensionally by detecting the photoacoustic signals generated at laser-scanned spots. The laser beam was modulated at 125 Hz and focused with a lens to approx. 0.2 mm diameter for scanning. The time dependence of photoacoustic signal images are discussed under completely and partially activated surface conditions.

L7 ANSWER 39 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1992:419502 CAPLUS

DOCUMENT NUMBER: 117:19502

TITLE: Analysis of electroless nickel bath solutions using vibrational spectroscopies

AUTHOR(S): Boess, B.; Gantner, E.; Mueller, H. G.; Steinert, D.; Ache, J.

CORPORATE SOURCE: Inst. Radiochem., Kernforschungszent. Karlsruhe GmbH, Karlsruhe, Germany

SOURCE: Kernforschungszent. Karlsruhe, [Ber.] KfK (1991), KfK 4970, 33 pp.

CODEN: KKBRAJ; ISSN: 0303-4003

DOCUMENT TYPE: Report

LANGUAGE: German

AB Simulated as well as realistic samples from electroless nickel baths based on hypophosphite as reducing agent were analyzed by vibrational spectroscopies which can potentially be applied to process anal. control of such systems. With a FTIR-spectrometer using the ATR (attenuated total reflection) method the concns. of hypophosphite, phosphite, sulfate, and lactic and citric acid could be determined within 10% accuracy applying chemometric evaluation techniques. In addition, the samples

were also measured using a dispersive laser Raman spectrometer which, in combination with simple spectral evaluation methods, allowed the anal. for the inorg. anions present. In a laboratory experiment the possibility of process control of these three species by Raman spectroscopy could be demonstrated using fiber optic coupling.

L7 ANSWER 40 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:573761 CAPLUS

DOCUMENT NUMBER: 115:173761

TITLE: Determination of metals and reducing agents in an electroless plating solution, method for adjusting the concentrations, and apparatus therefor

INVENTOR(S): Takehara, Hiroko

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 03064482 A2 19910319 JP 1989-323213 19891213

JP 03064483 A2 19910319 JP 1990-23467 19900201

JP 2742128 B2 19980422

US 5106413 A 19920421 US 1991-649697 19910201

PRIORITY APPLN. INFO.: JP 1989-100007 19890421

JP 1990-23467 19900201

AB In determination of components in an electroless plating solution containing metals, cations (reducing ions), and a reducing agent, the title method comprises substituting the cations using an ion-exchange means to other cations not to interfere in the determination of the reducing agent, determining the reducing agent, and determining the metal by using atomic-absorption spectrophotometry or plasma-emission spectrometry.

L7 ANSWER 47 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1989:85123 CAPLUS

DOCUMENT NUMBER: 110:85123

TITLE: Multicomponent solution composition monitoring by refractive index measurement

INVENTOR(S): Smith, Craig G.

PATENT ASSIGNEE(S): American Telephone and Telegraph Co., USA

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

PATENT NO. KIND DATE APPLICATION NO. DATE

EP 284270 A2 19880928 EP 1988-302232 19880315

EP 284270 A3 19900103

EP 284270 B1 19921216

US 4844608 A 19890704 US 1987-29040 19870323
CA 1321485 A1 19930824 CA 1988-561522 19880315
JP 63253239 A2 19881020 JP 1988-67503 19880323
JP 06021872 B4 19940323

PRIORITY APPLN. INFO.: US 1987-29040 19870323

AB In processes for producing articles which entail the use of a multicomponent solution, the composition of the solution is monitored by n measurements carried out using a light beam comprising 2 components which is directed at an interface between the solution and a transparent solid; 1 component has a wavelength selected so that it is partly reflected and partly refracted at the interface, with the degrees of reflection and refraction being dependent on the n of the solution, while the other component has a wavelength selected so that it is completely reflected at the interface independently of the solution n, and so acts as a reference. The transparent solid may be a glass prism. The multicomponent solution may be dimethylformamate in H₂O. The process being monitored may be electroless plating. Articles, especially printed circuit boards, formed by the processes are also claimed.

L7 ANSWER 58 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1976:440393 CAPLUS

DOCUMENT NUMBER: 85:40393

TITLE: Spectrophotometric formaldehyde-copper monitor

INVENTOR(S): Thompson, Douglas Stuart

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: U.S., 7 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

PATENT NO. KIND DATE APPLICATION NO. DATE

US 3951602 A 19760420 US 1974-482880 19740625

PRIORITY APPLN. INFO.: US 1974-482880 19740625

AB An apparatus and method are described for the spectrophotometric determination of Cu, H₂CO, and pH in an electroless Cu-plating bath. An aliquot of the bath containing H₂CO is delivered to a reaction vessel where H₂CO is reacted with a Nash reagent (containing acetylacetone and NH₄OAc) to produce diacetyldihydrolutidine (I). The absorbance of I is measured at 4150 Å. Cu was determined by reaction at pH 12.7 with the complexing agent in the bath [N,N,N,N-tetrakis(2-hydroxypropyl)ethylenediamine]. The absorbance of the complex is measured at 6900 Å. The pH was determined spectrophotometrically by measuring the absorbance of the basic form of Alizarin Yellow R at 4950 Å. The elec. signals corresponding to Cu, H₂CO, and pH values are generated by the spectrophotometer and transmitted to an electronic control and a pump which replenishes the Cu-plating bath with the proper amts. of Cu, H₂CO, and an alkali hydroxide.

L7 ANSWER 60 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1971:504729 CAPLUS

DOCUMENT NUMBER: 75:104729

TITLE: Spectrophotometric determination of copper with triethylenetetramine in electroless plating baths

AUTHOR(S): Goydish, B. L.

CORPORATE SOURCE: RCA Lab., Princeton, NJ, USA

SOURCE: Mikrochimica Acta (1971), (4), 675-9

CODEN: MIACAQ; ISSN: 0026-3672

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cu in electroless plating solns. containing propylenediaminetetraacetic acid can be determined spectrophotometrically at 580 nm after forming a mixed-ligand Cu complex with triethylenetetramine and I- at pH 10.0. Beer's law was followed for 0.5-10 mg Cu/25 ml. CN- (>0.01 mmole) and >50 ml H₂CO/l. plating solution interfered. Duplicate detns. of 5.00, 10.00, and 15.00 g CuSO₄.5H₂O added to plating solns. gave 4.90-4.96, 9.85-9.90, and 14.80-14.88 g, resp.

L7 ANSWER 61 OF 61 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1970:490564 CAPLUS

DOCUMENT NUMBER: 73:90564

TITLE: Electroless plating of copper. III. Investigation on automatic regulation of concentration in electroless copper plating bath

AUTHOR(S): Hirohata, Hyogo; Oita, Masahiro; Honjo, Katsuhiko

CORPORATE SOURCE: Matsushita Elec. Ind. Co., Kadoma, Japan

SOURCE: Kinzoku Hyomen Gijutsu (1970), 21(3), 142-6

CODEN: KZHGAY; ISSN: 0026-0614

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB An apparatus for automatically regulating pH and concns. of Cu and HCHO in an electroless Cu plating bath was manufactured with the aid of spectrophotometry. The concns. of Cu⁺⁺ and HCHO were successfully maintained at 0.019-0.025M and 0.15-0.22M, resp., and the pH was adjusted to 12.0-12.5 during the operation. The deposition rate of Cu increased when the deposition was repeated. The deposition rate at the 19th deposition was 1.7-2.0 times that of the 1st deposition. The increase is attributable to the effects of HCOO⁻ and SO₄²⁻ accumulated during the repeated deposition. Accordingly, the addition rate of the ingredients must be controlled. The operating time must be changed to get deposits of constant thickness for each deposition.